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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,283	09/24/2003	Harukuni Kobari	25716	4806
20529	7590	11/17/2006	EXAMINER	
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314			TRAN, THANG V	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/668,283	KOBARI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thang V. Tran	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 21 and 29-36 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-14, 16-20 and 22-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/24/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Objections – 37 CFR 1.75(a)***

1. Claims 1-14, 16-20, and 22-28 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1:

Claim recites a modulation device for converting input data words of  $p$  bits into code words of  $q$  bits, concatenating adjacent ones of the code words with a merge bit sequence of  $r$  bits to form a code word sequence, and outputting the code word sequence; however, there are no sources or structures provided to constitute such modulation device in order to perform these functions. Also, it is unclear what in the modulation device recognizes when the code word sequence is generated, and what in the control device controls the DSV of the code word sequence or inserts the merge bit sequence of  $r$  bits between the adjacent code words. Also, the terms “ $d$ ”, “ $T$ ” and “ $k$ ” in this claim are not defined.

In claim 2:

It is unclear what in the modulation device controls the DSV of the code word sequence or inserts the merge bit sequence of  $r$  bits between the adjacent code words. Also, the terms “ $d$ ”, “ $T$ ” and “ $k$ ” in this claim are not defined.

In claim 3:

It is unclear what in the modulation device outputs the code word sequence not to conform to the run-length limiting rule  $RLL(d, k)$  for a predetermined period. Also it is unclear what is meant by the statement “a predetermined period during which is input specific data as the input data word with which particular frequency components would appear in a code word

sequence if outputting to conform to the run-length limiting rule RLL(d, k)". Also, the terms "d" and "k" in this claim are not defined.

In claim 5:

It is unclear what in the modulation device inserts the specific data to the gap of silence between adjacent performances of music.

In claim 6:

It is unclear what in the modulation device inserts the specific data is inserted an area located within the gap of silence between adjacent performances of music but located outside of the area given the index number 00.

In claim 7:

The claim recites that a recording medium on which is recorded the code word sequence encoded by the modulation device as recited in claim 1. However, the modulation device recited in claim 1 does not provide any structures or sources to perform the encoding of the code word sequence. Accordingly, it is unclear what in the modulation device encodes the code word sequence and later recorded on the recording medium as recited in this claim. Further, it is unclear what records the encoded code word sequence on the recording medium.

In claim 8:

Claim recites a modulation method for converting input data words of p bits into code words of q bits, concatenating adjacent ones of the code words with a merge bit sequence of r bits to form a code word sequence, and outputting the code word sequence; however, there are method steps provided to perform these functions. Also, the terms "d", "T" and "k" in this claim are not defined.

In claims 9 and 10:

The terms “d ”, “ T ” and “ k ” in these claims are not defined.

In claim 14:

The claim recites that a recording medium on which is recorded the code word sequence encoded by the modulation method as recited in claim 8. However, there are no method step(s) provided in claim 8 to perform the encoding of the code word sequence. Accordingly, it is unclear what step in the modulation method encodes the code word sequence and later recorded on the recording medium as recited in this claim.

In claims 16, 17, 22, 23 and 24:

The terms “d ”, “ T ” and “ k ” in these claims are not defined.

Claims 4-6, 11-13, 18-20, and 25-28 fall with their respective parent claim.

2. This application is in condition for allowance except for the above matters. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Allowable Subject Matter***

3. Claims 1-14 and 22-28 would be allowable if rewritten or amended to overcome the objection(s) to under 37 CFR 1.75(a), set forth in this Office action.

4. Claims 15, 21 and 29-36 are allowed.

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5. Claims 16-20 would be allowable with their parent claim if rewritten or amended to overcome the objection(s) to under 37 CFR 1.75(a), set forth in this Office action.

6. Claims 1-36 are allowable over the prior art of record because the prior art of record, considered alone or in combination, fails to suggest or fairly teach a modulation device/method including a combination of all of limitations as recited in each of claims 1, 8, 15, 22, 29 and 33. Claims 2-7, 9-14, 16-21, 23-28, 30-32 and 34-36 are allowable with their respective parent claim.

#### ***Cited References***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to a modulation device or modulation method for converting input data words of unit of bits into code word of unit of bits including a DSV control bit determination/insertion unit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang V. Tran whose telephone number is (571) 272-7595. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Hoa can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thang V. Tran  
Primary Examiner  
Art Unit 2627